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MEDIEVAL INDIAN ARCHITECTURE: ITS HISTORY AND EVOLUTION

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*".....Ah, to build, to build
 That is the noblest art of all the arts.
 Painting and Sculpture are but images,
 Are merely shadows cast by outward things
 On stone or canvas, having in themselves
 No separate existence. Architecture,
 Existing in itself, and not in seeming
 A something it is not, surpasses them
 As substance shadow."*

H.W. Longfellow

Let me first take the opportunity to thank the organisers of the Indian History Congress for choosing me to deliver this symposium along with such stalwarts as Professors R.N. Misra and Ghulam Shaikh. It is humbling indeed to be sandwiched between these two stalwarts: an expert has just spoken, and you impatiently wait to hear the other!

As the verses of Longfellow cited above suggest, Architecture is the mother of all arts, the noblest of them all while Painting and Sculpture are but 'images' and 'shadows' cast by outward things on canvas or stone. It is, in the words of Fletcher, a human art and an affair of material 'which do not apply to the work of painters, sculptors and musicians. It also provides a key to the habits, thoughts, and aspirations of the people, and without knowledge of this art the history of any period lacks that human interest with which it should be invested'.¹ I would thus, during the course of this presentation, place stress on architecture rather on painting or sculpture. Probably the greatest reason for me in doing so would be my own limits: having worked on Fathpur Sikri, I am better versed in the field of Medieval Indian Architecture, while my knowledge of the other two fields is severely limited!

Although the subcontinent has enjoyed a virtually uninterrupted history of art and architecture, an appreciation of India's past only began with linguistic and philosophical researches in the second half of the 18th Century.

Till this period the only styles known or thought worthy of attention were the Roman and those derived from it. Thus when Giovanni Battista (also Giambattista) Piranesi composed his *Prima parte di Architettura e Prospettive* in 1743, *Antichità Romane de' tempo della prima Repubblica e dei primi imperatori* ("Roman Antiquities of the Time of the First Republic and the First Emperors") in around 1774 and *Remains of the Edifices of Paestum* in 1778 it was only the Roman style with some suspicion of the value of Greek art.²

Sir William Jones, a judge of the Calcutta Supreme Court was one of the pioneers whose endeavours helped in a better understanding of not only Indian philosophy but also Indian art and architecture. As early as 1774, Jones along with Samuel Johnson, a famous lexicographer, urged the Governor General of India, Warren Hastings, to 'Survey the remains of (India's) edifices, and trace the vestiges of its ruined cities'. Exactly a decade later, on 15 January 1784 Sir William Jones founded the Royal Asiatic Society of Bengal whose aim was to 'inquire into the history and antiquities, the arts, sciences and literature of Asia'.

The foundation of the Asiatic Society in Calcutta was entirely in keeping with the scientific spirit of the 18th Century Britain. J. Gibbs has suggested that Sir William Jones owed the idea of this society to the Society of Arts in Britain. Jones attempted to link Indian history to the universal history, as it was then understood.³

Till around 1800, the knowledge of Indian architecture was still almost unknown, and thus when Jean Nicolas Louis Durand published his famous *Receuil et Parallele des Edifices en tout genre, Anciens et Modernes*, in 1800, out of the sixty three plates, he devoted one to Gothic art, and "half a plate sufficed for all that was then known of Egyptian". India and the other 'outlying styles' were totally neglected as they were unknown till then.⁴

A new era however started from around 1834 when James Prinsep popularized the works of Charles Masson in Kabul valley. From 1833-8, Charles Masson was employed by the British East India Company to explore the ancient sites in south-east Afghanistan. He recorded or excavated about 50 Buddhist monuments, bought numerous ornaments, gems and coins in Kabul bazaar and amassed an estimated 60,000 coins, gems, seals, rings and other, mostly bronze, surface finds from the urban site of Begram north of Kabul.⁵ His finds not only shifted the attention to Indian architecture but also provided numismatic evidence for the spread of Buddhism into eastern Afghanistan in the 1st century AD.⁶

Around the same time Jean Baptiste Ventura, an Italian soldier in the army of Ranjit Singh spent his spare time in Peshawar exhuming Bactrian Greek and Kushan coins from Buddhist stupas in the Khyber Pass, and despatching them on to the Asiatic Society of Bengal in Calcutta.⁷ Cunningham on the other hand

added to the knowledge through his 'excavations' of the stupas at Sarnath and Banaras. Since his arrival in India & his contact with James Prinsep, whose close associate he was, Cunningham had initially published almost exclusively on the Indo-Greek & Bactrian coins and other antiquities which bore strong imprints of Buddhism.⁸ In 1839, he surveyed the region of the sources of the Punjab Rivers and published the report in the *Journal of the Asiatic Society of Bengal* in 1841. He was working at a time in India when the accounts of Chinese travellers, Fa Hian & Hiuen Tsang were becoming known to the European scholarship. In 1839, H.H. Wilson had also written a detailed paper on the geographical identifications based on the accounts of Hiuen Tsang.⁹

Another trend which is relevant to us during this period was the publication of drawings of Indian monumental remains & other antiquities. This trend began in the late 18th C with William Hodges (1744-97) who wanted to extend the European knowledge of India by means of drawings done on the spot. In 1786, the little-known artist Thomas Daniell (1749-1840) took a trip to India, accompanied by his nephew, William (1769-1837). The Daniells were part of a whole host of professional artists who went to India to amass a fortune, as opportunities in Britain were few. Thomas Daniell had seen the success of artists like Tilly Kettle, George Willison and others. After many years moving across the country, the Daniells returned to England and published to great acclaim, six volumes entitled *Oriental Scenery*, a series of 144 aquatints of Indian scenes.¹⁰ The series was influenced by William Hodges' book, *Select Views*, which had been published sometime between 1786 and 1788, and provided a ready model for successful travel books.¹¹ *Oriental Scenery* expanded upon *Select Views*, and diverged from the more picturesque mode Hodges applied to his work, emphasizing greater accuracy. Ultimately in 1821 was published a two volume publication of L.Langles, *Monuments Ancient et Modernes de l'Hindoustan* which contained illustrations & plans of a number of monuments like temples of Srirangam, Thanjavur, Mahabalipuram, Ellora, Elephanta, Kanehri etc.¹²

Work on Medieval Architecture started in 1847 when Sir Sayyid Ahmad Khan (1817-1898) published an Urdu text, listing and describing all notable monuments of Delhi entitled *Asar-ul-Sanadid*. His work so impressed British scholars in Delhi that he was invited to join the Asiatic Society and write a second, improved edition for translation into English. Unfortunately the translation was never written. Sir Sayyid was one of many local Indian scholars producing architectural and archaeological histories of the Subcontinent in the nineteenth-century.

The progress made by Sir William Jones and James Prinsep, and other Indologists, meant that the corpus of material regarding India's past had developed considerably by the mid-nineteenth century. Translations of local languages aided in elucidating the significance of monuments and, as a result, documentation of

architectural history during the middle of the nineteenth-century achieved greater accuracy and a vast subject matter became available for discussion. The process of examining and cataloguing monuments still remained an individual pursuit, and a Scotsman, James Fergusson, took up this task very successfully.

Rather than getting distracted by the foreign opulent nature of the buildings he was surveying, Fergusson focused upon classifying Indian architectural styles into different categories and did not attempt to link his findings to the western canon. Fergusson's work was presented in a series of publications, among which was the seminal work, *History of Indian and Far Eastern Architecture*, first published in 1866, with the final revised edition being published in 1876.

His very careful recording of numerous Indian monuments and the subsequent publications that followed his findings placed him as the pre-eminent architectural historian of India during his time and after. He revolutionised the field of Indian archaeology and architecture. His additions to existing bodies of knowledge notwithstanding, Fergusson's major achievement was to legitimise the study of Indian art history as a worthwhile endeavour *despite* its difficult fit with the prevailing canon of art. It is worth noting that he saw architectural history in India not through a 'European' lens *per se* but as a subject in its own standing, and even something that Europeans could learn from:

...there is no form into which stone can be carved which is not beautiful, if it is appropriate to the purpose for which it is employed; and that no one form is preferable in architecture to any other form, except in so far as it is better adapted constructively for the situation in which it is employed, or artistically more aptly expresses the purpose of the building of which it forms a part.¹³

According to a modern writer, Fergusson's writings on the history of Indian architecture through his construction of religious and racial categories was entirely 'in terms of the buttressing of a single, homogenous colonial project'¹⁴, and a 'source of ideas for the improvement of architecture in England'.¹⁵ In this classification attempted by Fergusson, he was guided by the Rankean historicism and European susceptibilities. Taste was the measure of perfection against which the stylistic units were classified. In his schema of world architecture, there were two 'dimensions', one chronological and the other topographical on the basis of which to divide the various styles. In the first category, according to him, the world architecture could be divided into Christian and Non-Christian or 'Heathen'. These two divisions, according to him were 'very nearly equal in the importance of the objects described, and very easily distinguished from another.'¹⁶ Topographically, all architecture could be classified as either Eastern, or West Asian. According to him the two great styles however were the Christian and the Saracenic which sprang from the Roman which 'was the great transitional style between the ancient and modern world'.¹⁷

It is interesting to note that although Fergusson employs the term 'Saracenic' to collectively designate the styles and traditions as they developed after the coming of the Turks, his attitude towards it is more positive. The 'Saracenic' or 'Mahommadan' started with 'Ghazni' style, which was a stepping stone by which the western architecture was introduced in India. In fact, the fusion of Islam in India, in the words of Fergusson, freed the Indian artists from the 'trammells of Puranic mythology'.¹⁸

Fergusson's sub-classification of Saracenic architecture of India shows it to be a mixture of Hindu and Muslim forms. His classification of architecture was thus aimed at propagating the colonial interests of projecting the 'decaying' nature of the Eastern Civilization and the superiority of the West. On the other hand, this scheme, as Juneja points out, was also an attempt to "assimilate the 'other'".¹⁹

A severe critique of Fergusson was ultimately made by E.B. Havell who faulted the former for a lack of "essential Indianness" in the use of racial or ethnic categories.²⁰ Havell found fault with Fergusson's 'persistent habit of looking outside of India for the origins of Indian art'.²¹ According to him all "Saracenic symbolism in architecture" was borrowed directly or indirectly "from India, Persia, Byzantium or Alexandria".²² To Havell, the *mihhrâb* was a Buddhist loan of the niche to Islam. Even the term *butkhâna* used by the Arabs for the temples was a corruption of 'Boud-khana' or Buddha-house.²³ In fact he went on to argue that the 'Saracenic' art which came to India had been Indianized before it crossed the Indus.²⁴ Thus the bulbous dome, as at the Taj Mahal, was a derivation from the Buddhist Stupa tradition.²⁵

The obsession with 'Indianness' and identification with Aryan philosophy pervades the entire work of Havell. His first chapter, in the form of an introduction, deals with 'Hindu and Saracenic art' and the 'Pointed Arch'. The next chapter elaborates on 'Hindu Symbolism' and the indigenous origins of the Taj. The next three chapters are in a chronological treatment of various regional styles like Delhi, Gujarat, Gulbarga, Mandu, Sarkhej and Gaur. The sixth chapter focuses on architectural elements like Indian arches, brackets, capitals, domes and *sikhara*. The next eight chapters again have a chronological framework.

A perusal of Havell's work brings out the sum total of all the prejudices of a colonial and communal approach. The term 'Saracenic' appears like an anathema with all its prejudices unhindered.

The term 'Saracenic Architecture' was used for the styles followed by the 'Moors' (Muslims). The term had a long pedigree going back to the period of Crusades fought between the Christians and the Muslims. It connoted an architecture of the followers of Islam who conquered Persia, Egypt, Palestine, Syria, Arabia and Spain. It was chiefly an architecture of temples and mosques.

Amongst its characteristic features were counted the pointed or horse shoe arch, domes, minarets, coloured decorations with red, blue, green and gold geometrical patterns and designs, an emphasis on arabesque and a total absence of sculptures.

Having its origins in the Crusades, the term Saracenic was sometimes used in the pejorative sense. Fergusson, on the other hand, used the term as an all purpose name for the Muslim Architecture, whether in India or outside. Unlike Havell, Fergusson appears to be fairly aware and conscious of the term's negative connotation and thus alternates the term with 'Mahommadan'.

Even shorn of its pejorative sense, the term 'Saracenic' is still problematic: It borrowed heavily from two very diverse sources. On the one hand it included Persian tradition or style which was based on the vault; on the other it also included the Roman and Greek traditions from which it borrowed the true arch and the dome. Muslims joined both the streams to give shape to the 'Saracenic' or Muslim style.

The term 'Saracenic' is now out of use. The term in use presently is 'Islamic Architecture', and for India, Indo-Islamic. The term in any of its form further is consciously religious and thus still problematic.

The term Saracenic / Mahommadan or Islamic Architecture for the medieval period in India used in the way that Fergusson, or for that matter Havell used, would convey the pre-supposed use of arcuate: Arcuate being Islamic and Trabeate, Hindu.

Thus when one looks at the Akbari buildings constructed at Fathpur Sikri, and find a heavy use of trabeate, one tends to explain it by his open views towards religion and his policy of *sulh-i kul*. The whole of Akbari architecture is attributed to his religious views and policies. In this what we forget is the chronology. Akbar ordered the construction of Fathpur Sikri in 1571-72 and if we believe his contemporary historians, almost the whole palace was completed by 1578.²⁶ The initiation of his policy of *Sulh-i kul* comes much later. In 1579 Akbar was still trying to take up the leadership of the Muslims by invoking the *mahzar* and trying to assume the title of *mujtahid* and *imam-i adil*.²⁷

But then in fact, many changes were made in the trabeate when it was used by the architects of Akbar's period: the trabeate at Fathpur Sikri is light and different from the trabeate of the ancient period. The architects of the Mughal period, being experts in geomancy knew the concept of the systems of the transfer of weights. Thus there is a distinct lightness in the structures which is not encountered in the earlier phases. Similar case in point would be the temple architecture of the Mughal period. The Gobind Deva Temple constructed in Brindaban is a structure built on the pattern of just any other Mughal palace and comprised a large vault supported on intersecting arches, an 'Islamic' or 'Saracenic' feature found in an otherwise 'Hindu' monument.²⁸

The tradition of structural characterization of buildings as propounded by Fergusson was carried forward by Maulvi Zafar Hasan.²⁹ He however, unlike Fergusson and Havell, firstly, did not stress on the term 'Saracenic', and secondly, laid emphasis on the Arabic / Persian inscriptions which adorned the various structures.³⁰

Much emphasis to the study of Medieval Indian Art and Architecture was given during the initial decades of the 20th Century. Scholars like A.K. Coomaraswamy³¹, L. Binyon³² and Abdullah Chaghtai³³, besides Percy Brown started exploring the fields of Architecture, Painting and Sculpture.

Brown unlike the others before him followed a dynastic framework in his works on Architecture and Painting. He categorized the Medieval Indian Art and Architecture into three broad heads: (a) the Delhi or Imperial; (b) the Provincial; and (c) the Mughal. The first two were sub-classified as per the dynasties under which the respective structures and pieces of art were built or produced.³⁴

Brown rejected the term 'Saracenic' and replaced it with 'Indo-Islamic', which, according to him better described the buildings which were 'an expression of the religion of Islam' as manifested in India.³⁵

His work on Medieval Indian Architecture greatly impacted more than a generation of scholars. Following him, it became stereotypical to argue that 'arcuate' was superior to 'trabeate'; the Akbari architecture was a result of his religious policy; the Jahangiri phase was 'transitional', while the 'zenith' was reached under Shahjahan. This period was also the phase when most of the Persian architectural features were incorporated. Under Aurangzeb, there was no further development but a setting in of a period of decline.

Some of these prepositions are still adhered to by most of the recent scholars of Medieval Indian architecture, who otherwise have made great strides in the field. The recent scholarship can be broadly divided into two ideological groups: One, which like Havell emphasise the indigenous influences and sources, and the other, to whom the Medieval Indian architecture was basically derived from Persian and Central Asian traditions.

The first group may be represented by the voluminous contributions of R. Nath and R. Balasubramaniam amongst others. According to the former, the source of architectural design and elements was the ancient Indian knowledge as ingrained in the *śilpasastras* and other traditional texts.³⁶ To Balasubramaniam, a dimensional analysis of Mughal monuments, like the Taj Mahal reveal a modular planning executed using traditional measurement units mentioned in the *Arthashastras*.³⁷ This may be so, as the actual builders of these monuments, the master-masons and stone-cutters were generally indigenous craftsmen.³⁸

Ebba Koch, Catherine Asher and a number of others have laid emphasis on the foreign sources as inspirations for the growth and efflorescence of the Medieval Indian Architecture. To Ebba Koch, while the Mughal Architecture was a supremely confident style created through a synthesis of heterogeneous elements (viz. Trans Oxanian, Timurid, Indian, Persian and European), its sustaining element, especially during its initial phase, was Timurid.³⁹ She went on to make a study of the symbolic forms and motifs.

Catherine Asher elaborated on the innovative genius of the Medieval Indian and Mughal architects, who, in her words 'interpreted these borrowed forms, both in terms of symbolism and style, to their own purposes'.⁴⁰ Unlike others she also dealt with patterns of patronage and the study of regions. Asher's research rectifies the centrist perspective of the Mughal State and focuses on the tension and dependence that result from interaction between the centre and the periphery.

The most recent trend however, is the focus on regional styles and building traditions. These patterns of research, as Juneja argued, have served as a corrective to the historiography of views "from the parapets of the imperial Red Fort in Delhi". It has, as a result, attempted the "decentring" of historiography of Medieval Indian Architecture.⁴¹ Among the regions now being studied are Bengal, Vijaynagar, Deccan, Rajput Kingdoms of Central India, Gujarat and Rajasthan. Some of the studies representing this trend are like those of Catherine Asher, Perween Hasan, Iqtidar Alam Khan, George Michell, Meherdad and Natalie Shokoohy and others.⁴²

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The constructional principle applied in India before the Turkish Conquest was Trabeate, in which all spaces were spanned by means of beams laid horizontally. Through this technique, the resultant structures would be flat-roofed and low. No tall building or open-halled structure could be constructed.⁴³ Further, they would be pillared structures. Built of heavy building material, generally stone, they would also not be in need of mortar or cementing material: the law of gravitational pull would help in holding them together. However, as the weight of the beams and lintels forming the ceiling rested directly on the walls, resulting in a vertical downward push, the structures were not very durable. To attain the spire of the temple, the same technique would be staggered and involve putting one stone on top of the other to form a heavy pyramidal roof, the *aikhara*.

The monopoly of this traditional and well established system of construction was challenged between 10th to 13th Centuries by a fresh system which was introduced by a new set of conquerors and rulers.

By 715 AD Muhammad bin Qasim brought the whole of Sindh and parts of modern Punjab under direct Umayyid control.⁴⁴ Multan ultimately passed into

the hands of the Carmathians who continued to rule over it till the onslaught of Sultan Mahmud of Ghazna. The Ghaznavide incursions in India started in 978 AD when Amir Nasiruddin Subuktigin 'captured a few forts and built some mosques' in the Indian frontier region of Punjab.⁴⁵ By 1021-22, the whole of Punjab passed into the hands of his successor, Mahmud.⁴⁶ During the successive reign of Masud (1031-40), the capital was shifted from Ghazni to Lahore.⁴⁷ By late 12th and early 13th Century, the Ghurid conquest of India took place, and ultimately in 1206, the Delhi Sultanate was established in India, with its capital first at Lahore, and then at Delhi.

With the 'Arab' Conquest of Sindh, not only a new political class and polity were introduced, but there was also the introduction of new types of building material and concept of architectural planning. Stone was gradually replaced with bricks and brick-tiles and lime mortar and gypsum⁴⁸ to bond these bricks, was used for the first time. In a number of palatial and residential buildings at Mansura in Sindh the excavators found below ground level a basement 'built of brick and white lime mortar', as well as gypsum along with lime at the upper levels of construction.⁴⁹ Similarly in the mosques of Deybul and Mansura founded after the conquest by Muhammad bin Qasim, square sized burnt bricks, brick-tiles and gypsum and lime-mortar are encountered as the building material.⁵⁰

In their lay-out and plan, the two mosques follow the Umayyid hypostyle plans of the Levant and Iraq.⁵¹ This was the plan on which the earliest mosques were laid out. They were square or rectangular in their layout with an enclosed courtyard and a covered prayer chamber. Such structures generally had flat roofs and numerous columns and supports.

The use of gypsum and lime along with *surkhi* (pulverized brick mixed with lime) appears to have become common after this period. Just as in Deybul and Mansura, bricks, gypsum and lime-mortar are also found at the Ghaznavide remains at the site of Giri near Taxila. Most of the structures within the Ghaznavide fort at Giri are built of bricks and brick-tiles set in lime-mortar. They are also covered with a lime-*surkhi* plaster.⁵²

In the Indo-Gangetic plains where the Turkish Sultanate was established, the use of lime-mortar starts from the 13th Century. The distinguishing element at Lal Kot, near the Qutb complex at Delhi, which marks the archaeological remains of the pre-Sultanate from the Sultanate period, is the use of lime plaster. According to B.R. Mani, it is from Sub-Phase IA of Period II (i.e. Early Sultanate) of Lal Kot that rooms covered with decorative lime plaster, drains finished with fine lime-plaster, fresh lime floors and lime-plastered alcoves are encountered.⁵³

The use of lime as mortar though known in the ancient period there are extremely few examples which survive.⁵⁴ Use of gypsum as mortar had also been

known but confined only to the Indus cities of the third millennium BC.⁵⁵ Similarly prior to its profuse use in Medieval India, *surkhi* had also been employed only at Mohanjo Daro, after which it is not encountered.⁵⁶ Irfan Habib rightly points out that the medieval use of lime and gypsum mortars was eminently due to the combination of building methods derived from Byzantium and Sassanid Iran under the Arab caliphates.⁵⁷

The use of these new building materials: the lime-mortar, gypsum, *surkhi* and the brick which they helped to bind, led to cheaper costs of construction. There was a proliferation in the building constructional activity. With cheaper costs, men of lesser means could also indulge in the luxury of building activity. Thus if in Ancient India only public structures and places of worship were generally constructed, now a large variety of buildings, both religious (mosques, temples, tombs, *khanqahs*) and secular (palaces, *sarais*, bazars and residential structures, works of hydraulics etc) sponsored both by king and laity resulted.

The need for these new building materials had arisen due to the introduction of the arcuate technique of construction. It was a system in which the enclosed space is roofed and vaulted with the help of an arch. The arch itself is a structure, especially one of masonry, forming the curved, pointed, or flat upper edge of an open space and supporting the weight above it, as in a bridge or doorway. This arch when in its true form (the 'arcuate' system) is constructed with the help of wedge-shaped stones known as *voussoirs* and a key stone. Two spans are constructed, each springing from the imposts on the wall, pier or pillar. At the point of their contact a triangular key stone is added to hold them together. In this technique the durability of the enclosed space was guaranteed till the 'keystone' was in place. Secondly, the *voussoirs* ensured that the weight of the stones radiated in different directions, leaving the ceiling almost weightless. Thus the structure roofed by such a ceiling could be larger and higher. Thirdly the angle or slant of the *voussoir* could help in getting the desired breadth of the building. In this system, small medium of construction provided flexibility of attaining the myriad shapes and sizes. Thus brick was more suited which in turn needs a good binding material like lime mortar and gypsum.

The first example of arcuate mosques in the Indian sub-continent come from around the period of establishment of the Ghaznavide rule in the Punjab region. At the Serai Kala near Taxila is a small mosque which is assumed to be one of the earliest mosques built in India. This mosque is square in plan measuring ten metres square and constructed in stone masonry using mainly granite and limestone. The arches and domes were constructed of bricks. The arched entrance towards the east is 2.9m wide. Interestingly the dome of this mosque rested on true squinch arches which sprang at a height of 4.4m from the existing floor level.⁵⁸ Another such example comes from Swat. This mosque, known as Rajagirha (Swat) Mosque

is a hypostyle construction, rectangular in plan. Built of slabs of schist stone, its prayer chamber on its western chamber has a formal *mihrab* in the shape of a deeply recessed arched niche.⁵⁹

With the establishment of the Delhi Sultanate a new plan of the mosque was introduced. Modelled after the Ghurid period mosques, the *Quwwatul Islam* started in the year 1193 AD, when Aibak was the commander of Muhammad Ghori's garrison that occupied Delhi, follows the Seljuqid Iranian plan of the four-*aiwan* courtyard-mosques, with certain modifications.⁶⁰ The four-*aiwan* courtyard mosque plan was a plan where an integrated enclosed space was created by the symmetrical repetition of *aiwans* (portals) and arcades on the main and transverse axis, thus creating a structure with centralized courtyard flanked by cloisters and portals on three sides and the prayer chamber and a portal on the side facing the *qibla*. In this Mosque, the Iranian *aiwan* is however replaced by a central ogee-shaped arch flanked by two lower arches.⁶¹

It is however interesting to note that though architecturally the nature and appearance of this mosque is Islamic, structurally and technically it is indigenous. The arches of the *maqsura*, instead of being arcuate, are constructed on corbelled technique. A corbel arch is constructed by offsetting successive courses of stone (or brick) at the spring-line of the walls so that they project towards the archway's centre from each supporting side, until the courses meet at the apex of the archway (often, the last gap is bridged with a flat stone). For a corbelled vault covering the technique is extended in three dimensions along the lengths of two opposing walls.

At the *Arhai din ka Jhonpra* Mosque at Ajmer, constructed two years later (i.e. in AD 1199), we get three engrailed ogee-shaped corbelled arches instead of *aiwans*. Over a century later, in the more authentic Iranian fashion, an *aiwan* replaced the central arch. The first example of such a construction is the Jahanpanah Mosque at Delhi (c. ad 1343). In the Delhi Sultanate version, the atrophied four-*aiwan* mosque appears to have been preferred, since the tendency was to retain only one of the four *aiwans*, that of the western liwan (ante-chamber). This modified four-*aiwan* Khurasanian mosque plan appears to have been followed throughout the Sultanate period in India.

The next phase in the development of Architecture in India is marked by the Tombs of Iltutmish and Balban. Tomb of Balban (c. 1287) was the first building constructed in India by the artisans who were skilled in the arcuate style. One of the most important architectural features of the tomb of Iltutmish (1235) is in the form of phase of transition: the squinches are false and corbelled. However the phase of transition suggests the beginning of the arcuate style.

A true dome covers the structure known as Alai Darwaza. The arches, squinches and the dome are all of the true order in this building. The trabeate style is introduced in the upper windows of both the sides of the entrance. The lower windows are however arcuate. Both the tiers of windows, the upper and lower are covered with perforated screens of stone with the designs based on different combinations of geometrical patterns. Thus this is the first building in which we find the dominance of arcuate style and technique for the first time. It is also the first building which has the first existing true dome.

It is an entrance gate in the form of a square chamber covered by a domed roof. An entrance is provided on all its four sides, which are in the form of a *horse-shoe arch* also known as *keel arch*. The intrados (the inner side of the arch) and the extrados (the outer sides) are decorated with spear head motifs in stone. Secondly, the spandrels of the arches contain single sockets on each side. These sockets were made to insert certain decorative motifs or glass. These features, the horse-shoe arches and the sockets on the spandrels were derived from the Seljuq buildings of Anatolia. Probably the construction of Alai Darwaza was done through the artisans skilled in Seljuq architecture. This is further proved by a new method of bonding a wall: the walls of this entrance gate have been constructed with the *headers and stretchers*, a new technique introduced for the first time. The headers are vertical stones and stretchers are horizontal stones. In the interior, the phase of transition has been achieved with the help of squinches, which are also horse-shoe in appearance.

The first arcuate mosque is the *Jama'at Khana* mosque constructed by Alauddin Khalji around 1312 AD. It is situated to the west of the Tomb of Nizamuddin Auliya. Occupying a total area of 29×17 m, it is the first mosque which is purely in arcuate style – thus purely Islamic in appearance as well as in technique. In its plan it consists of three chambers or aisles in western *liwan* covered by three shallow domes – the central dome is broader and higher than the other two.

A new chapter in the history of Medieval Indian Architecture was written with the coming of the Tughluqs (1321-98) to power. The period witnessed the use of a new material of construction, the stone rubble which necessitated a new technique of surface decoration. In the earlier period when stone was employed, the surface of the buildings was covered with carvings in the form of arabesque comprising geometrical patterns, floral designs and calligraphic bands. Use of rubble stone necessitated not only heavy use of lime-mortar as binding material but also a thick veneer of lime plaster to cover the surface. Stucco and painted internal surfaces also became common. The richly carved stone facades and interiors were replaced by plain stucco, and the Quranic inscriptions rarely

embellished any structure. Although they *may have been* painted, the multi-coloured stones on the surfaces of these structures were rare.

There were other profound changes which occurred as well. Cyclopean or tapering walls emerged as the hall-mark feature of the period. There was also a mixing of trabeate with arcuate. Though constructed of rubble stone, the outer side of the walls are faced with dressed granite stones. In all the Tughluq monuments, the turrets are tapered, walls are cyclopean and the bastions are sloped. Due to the use of rubble, the dome is also lowered.

Firuzshah constructed a large number of mosques in Delhi and elsewhere, the general plan of which differed from the earlier mosques of the Sultanate period. They generally contain the following features:

1. They comprise a raised terrace of one storey height which is divided into a number of chambers on all the four sides.
2. On the terrace, the main structure of the mosque is constructed, which is usually divided into four courtyards. Further, the covered area contains multiple domes of small size, e.g., 30 domes in Kalan Masjid, 65 domes in Begumpuri Masjid, 81 domes in Khirki Masjid etc. – the smaller domes of equal size were constructed due to the use of rubble, through which proper arches of the domes could not be made. Smaller and lower domes were constructed with this material.
3. Entrance gates of the mosque are usually three – one on east, north and south. These gates are generally constructed with a combination of arch and beam.
4. The entrance gates are flanked with tapering turrets joined to it on each side.
5. The corners of the mosque contain circular bastion-like structures.
6. All the mosques in the interior contain piers in place of pillars.
7. Since all these structures are built of rubble covered with lime plaster, the calligraphy and arabesque decoration is totally absent.

Beginnings of a high propylon, which was later to become the distinguishing feature of the Jaunpur Sharqi style, are also found during this period. At the Begumpuri Mosque built by Khan-i Jahan in Delhi, the prominent feature is its main central arch which is of considerable height. It is deeply recessed and encloses 3-arched openings which lead into the chamber. This central arch is flanked by sloping buttresses (support built against walls) each containing staircase leading to the roof.

As far as the tombs of this period are concerned, they reflect in *paradisical imagery*: Their setting in a pool of water evokes numerous references in the Qur'an to the abundant waters of Paradise – the *hauz-i kausar*. Thus the tombs of Tughluqs,

like the Tomb of Ghiyasuddin, are a private vision of paradise. Similarly the Tomb of Firuzshah though austere and located within a *madrassa*, it overlooks a large water tank. Its exterior walls have a thick un-embellished stucco veneer. The interior is also stucco-faced, generally plain. The interior of the dome however is incised and polychromed. In addition to medallions and floral designs, the dome is inscribed with verses from the Quran and the sayings of the Prophet.

The tomb of Ghiyasuddin is much more ornate and reflects many important architectural features. The single square chamber is covered by a domed roof which is constructed in the centre of a pentagonal fort-like structure surrounded by an artificial lake and a causeway. The pentagonal building was originally a treasury – in the interior there are a number of interconnected underground rooms and chambers having a flat roof/ ceiling – which forms a flat open courtyard above. The central room was later converted into a tomb chamber. Above it was constructed a single chamber on the ground floor. The outer single chamber contains an arched gate constructed with an *arch-and-beam combination* – between which is placed a perforated screen. The door on the west is closed. The material of construction: there is the use of both red sand stone and white marble, both smoothly dressed. The walls up to the level of the springing of the arches are of red sand stone; above is use the use of marble. The dome is also of white marble and is crowned with a *kalasha* motif.

In the phase of transition we find for the first time a combination of arcuate and trabeate technique – the first stage is achieved with squinches and the second stage with beams: *Thus there is a conscious effort to combine the existing Indian style with the newly emerging arcuate style. The combination of the beam-and-arch entrance gates as well as the cyclopean walls (and turrets) are the general features of the Tughluq architecture* which are found here as well.

A change in Tomb structures is brought about with the construction of the Tomb of Khan-i Jahan Telangani, again during the reign of Firuzshah Tughluq.

The Tomb of Khan-i Jahan Tilangani is *octagonal* in plan. Further, the octagonal chamber is surrounded by cloisters all around. Each side of the cloister contains three arched entrances: the side arches are covered with a flat roof while the central arch of each side is surmounted with a small dome. Probably this plan borrowed from the plan of the Dome of Rock Mosque at Jerusalem. *By adopting this plan, the first stage of the phase of transition is eliminated.* Other stages could be easily achieved for constructing a circular base. Thirdly, the surrounding cloisters kept the building cool in different seasons. The eight smaller domes of lower size above the cloisters surrounding the central dome created a better skyline and thus enhanced the beauty of the structure. Further, this plan also increased the area of the building and accommodated large number of people. This plan was to become a 'model' for a large number of tombs in the subsequent periods. With it was introduced the tradition of building octagonal tomb structures.

The post-Tughluq period was a period of political decline. Lodis and Saiyyids succeeded them as Sultans of Delhi. However a number of regional states started emerging in the other parts of the country. The most prominent amongst them were the Sharqis of Jaunpur. Bengal, Gujarat and Malwa were the other prominent regions which had their own architectural traditions.

Under the Lodis and the Saiyids, most of the architectural traditions developed under Tughluqs continued. Amongst the new features which make their appearance during this period were lofty domes placed on high drums, double domes and drooping eaves. The first two features were necessitated due to the preferred octagonal plan of the tombs inspired by the Tomb of Khan-i Jahan Tilangani. Other features included battlemented parapets, pinnacles and lotus finials as well as brackets and mouldings.⁶²

The Tomb of Sikandar Lodi introduced two new architectural features: the surrounding cloisters were at a height of a single storey, while the inner octagonal chamber was raised to two storey height and covered with a dome. Secondly, the *double dome appears for the first time in this building*, maintaining the outer and inner symmetry of the structure.

The square tombs of this period consist of a single square chamber *with double or triple storied effect only in the exterior, which was provided with the help of arched zones and eaves on both the sides of the entrance gate*. The inner surfaces were plain and simple. A few of these tombs also contain cupolas, one at each corner. All these tombs are constructed with stone and lime-mortar.

A new variety or category of tombs encountered during this period was the Platform Tomb which comprised of only a pillared platform covered with a domed roof. They were popularly referred to simply as *chhatri*. Probably this category was reserved for the lower nobility and the common people.

The Sharqi architecture of Jaunpur carries a distinct impact of Tughlaq style, the battering effect of its bastions and minarets and the use of arch-and-beam combination in the openings being the two most prominent features. The school of architecture which emerged at Jaunpur was a harbinger of all that was best in the Delhi Sultanate which suited the local conditions. The Sharqi mosques were the improved versions of the *Alai Darwaza* and the Begumpuri mosque. The pylon of the later served as the model for the propylon as it developed at Jaunpur.

The architectural scheme followed in the Sharqi mosques include the tapering minarets, battered sides of the propylons, stucco decoration, arch-and-beam openings and low four-centred arches with decorative fringes all derived from Tughluq style.

The most distinctive feature however is the tall propylon, a gigantic arch framed within a rectangular frame with much emphasised battered sides. This propylon completely obscures the front view of the massive hemispherical dome built over the sanctuary. In fact the massive propylon appears to be an architectural element completely independent of other subsidiary features.

The most striking feature of the Jaunpur style was the design of the facade of mosques which was composed of lofty propylons with sloping sides raised in the centre of the sanctuary screen. The propylons consist of huge recessed arch framed by tapering square minars, of exceptional bulk and solidity, divided into registers. The best examples can be seen in Atala Masjid (built in 1408) and Jama Masjid.⁶³

Evidently, the propylon was the key-note of this style and occurs in no other manifestation of Indo-Islamic architecture.

The naked brick architecture of Sindh and Multan (8th to 13th Century) found its reflection in the architecture of Gaur and Pandua in Bengal. Its principal characteristic being heavy short pillars of stone supporting pointed arches and vaults in brick, the buildings of the Bengal regional school used painted, carved and incised bricks in their construction.⁶⁴

Amongst all the regional states, the Gujarat Sultanate had absorbed the local style of the pre-Islamic Hindu and Jain architecture to a greater strength and more successfully than any other region. Thus the post and beam constructions, the intricate stone carvings of the Jain temples, latticed screens and carved brackets, along with such features as the 'bangla' roofs and marble screens set into arches were its main features.⁶⁵

The kingdom of Malwa had an architecture which was modelled around the architectural heritage of the Khaljis, Tughluqs, as well as the contemporary instances of Lodis, Saiyids and the Gujarat-Sultanate. Thus what we see there is an assimilation of battered walls and pointed arches of the Tughluqs, the 'boat-keel' dome and pyramidal roof of the Lodis and the intricate carved designs of the Gujarat-Sultanate.⁶⁶

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The establishment of the Mughal rule in India marks a definitive phase of the Medieval Indian Architecture. Although technically the foundation of the 'Mughal School' of architecture was laid during the reign of Akbar, the beginnings of new features which were to have a far reaching effect, were made from the period of Babur himself. When Babur marched into India, he brought along with him two Iranian architects, Ustad Mir Mirak Ghiyas of Herat and Ustad Shah Muhammad of Khurasan.⁶⁷ It was under their watchful supervision that the first

Mughal architectural projects were completed. From an extant mosque which can be directly attributed to Babur it appears that the process of assimilation started with these initial projects itself. Thus at the Kabuli Bagh mosque of Panipat one find typical Tughluq-Lodi style surface carvings along with the use of rubble-stone with a heavy veneer of plaster and an ashlayer of red sandstone on the portals, as well as a typical Central Asian traditions of having multiple domes and arch-netted pendentives in pseudo structural plaster relief-work.⁶⁸ These domes, unlike any other domes built in India, are not surmounted with a *kalā'aa* pinnacle but are provided with a Central Asian *raushandān*.

The second innovation of the period was the introduction of the four-quartered garden: the *chahârbâgh*. Idiomatically and axiomorphically, these four-quartered paradisaical gardens with their intersecting water-channels lined with walk-ways (*khiyabans*), platforms, water-chutes, tanks and fountains, flower-beds, fruit bearing trees and foliages, all surrounded by screen walls and gateways were to become the standard setting for Mughal tombs.⁶⁹ In these gardens, the focus was the centre, marked by the construction of a large platform. In its funerary variant this central platform was replaced by the mausoleum. Typical examples of such funerary gardens from the Mughal period are Humayun's Tomb at Delhi, the Tombs of Akbar and Mariam at Sikandara (Agra), the Tomb of I'timadud Daulah at Agra and the Tomb of Jahangir at Shahdara, Lahore. In the Taj, the focus was shifted from the centre to the periphery, namely the river front, where the mausoleum was now constructed. Further enhancement to the river-front was provided by constructing octagonal bastions flanked by a mosque (west) and a *mehmankhana* (East) in the corners. The mausoleum and the main gateway are on the main axis, while the terminals of the transverse axes are marked by a pavilion on each side. The structures on the terminal points of the axes of the garden result in a cruciform shape which is similar to the plan of cruciform (*Chahartaq*) tombs and mosques of Iran, such as the *Musalla* of Gauhar Shad, Herat (1417-38), and Jami' Masjid Turbat-i Shaikh Jam (1440-43). This shift of emphasis from the centre to the terminus is, however, first seen in the Tomb of I'timad-ud Daulah, where although the mausoleum was retained in the centre, a river-side decorated pavilion was added.⁷⁰ A fore-court (*jilau khana*) with a series of cloistered cells is also added to the *chaharbaghs* in the tomb of Jahangir and in the Taj Mahal.

Many innovations and new features were added to the field during the reign of Akbar. The fore-most of these was the concept of monumentality. Never before in India had such monumental structures been built. The tomb of Humayun at Delhi built by Mirak Ghiyas and the Buland Darwaza of Fathpur Sikri, and the tomb of Akbar himself were all conceived on a very grand scale. This tradition seems to have continued till the last.

A number of new building plans and architectural features were introduced from this onwards. For example the Nonipartite Plan, popularly known as the *hasht bihisht* plan in the Iranain tradition was introduced on a large scale during this reign. In this plan the layout, which is preferably an irregular octagon (a chamfered square — *musamman-i baghdadi*), is divided by four intersecting constructional lines into nine parts, comprising a domed octagonal chamber in the centre, rectangular open halls (in the form of either *pishtaq* or flat roofed *aiwans* supported by pillars) and double storeyed octagonal vaulted chambers in the corners. This plan provided the buildings a radial symmetry which hitherto was missing. The radial symmetry was further emphasised by the axial and radial passages which linked the nine chambers with each other.

The most famous Mughal monumental funerary structures constructed on this Timurid plan is the Humayun's Tomb at Delhi. This plan was later perfected during the reign of Shahjahan to give shape to the Taj Mahal at Agra. Another example of a noni-partite tomb is the Tomb of Anarkali at Lahore, which again, is one of the most ingeniously, planned Mughal structures.

The noni-partite plan was also applied by the Mughals to tombs which were regular octagons. The Tomb of Shah Quli Khan at Narnaul, Tomb of Haji Muhammad at Sirhind and Tomb of Qutbuddin Muhammad Khan at Vadodara are some of the funerary structures of Akbar's reign which were regular octagons with noni-partite plans.

This plan was applied to palace buildings like Akbar's pavilion at the Ajmer Fort and the Buland Darwaza at Fathpur Sikri, and Rani ka Mahal at Allabad Fort. Pleasure pavilions and water palaces like Hada Mahal at Fathpur Sikri, Shah Quli's Water palace at Narnaul and I'timad Khan's Water palace (popularly known as Burhia ka Tal) at Etmadpur (Agra) were also constructed on this pattern.

The noni-partite plan was also applied to square structures. Akbar's Ajmer pavilion and Shah Quli's water palace were square-structures. The best example of this type is, however, the Tomb of Itimadud Daulah at Agra. These square noni-partite structures were probably constructed in the style of such as Khanqah of Qasim Shaikh at Kermin, Bukhara and the Tomb of Ulugh Beg and Abdur Razzaq in the vicinity of Ghazni.

This plan was applied to a large number of Mughal *hammams*, for example the *hammam* of Abdur Rahim Khan-i Khanan at Burhanpur and the Imperial *hammams* at Fathpur Sikri.

Another innovative introduction was of the Khurasanian vault which was needed for massive buildings built on nonipartite plans. This type of vault consists of four large intersecting ribs, which create a central vaulted area, four lozenge-

shaped squinches and four rectangular fields. In this plan the centre of each side of the square contains an arched recess, the width of which is equivalent to the diameter of the dome, which is supported by the four arches which in turn spring from the forward edge of the recess arches, each adjacent pair intersecting to form the square. The secondary ribs springing from the haunches of the arches converts the square into an octagon by a series of lozenge shaped squinches. At the second stage of the phase of transition, sixteen fan-shaped pendentives complete the transition to the circular dome. With this system the vaulting techniques reach perfection. The need of supporting walls is eliminated and the dome now sits directly on the four arches. This type of vault consists of four large intersecting ribs, which create a central vaulted area, four lozenge-shaped squinches and four rectangular fields. In this plan the centre of each side of the square contains an arched recess, the width of which is equivalent to the diameter of the dome, which is supported by the four arches which in turn spring from the forward edge of the recess arches, each adjacent pair intersecting to form the square. The secondary ribs springing from the haunches of the arches converts the square into an octagon by a series of lozenge shaped squinches. At the second stage of the phase of transition, sixteen fan-shaped pendentives complete the transition to the circular dome. With this system the vaulting techniques reach perfection. The need of supporting walls is eliminated and the dome now sits directly on the four arches.

In the Mughal Empire, we find its occurrence in the Imperial *hammam* (the so-called Hakim's Baths), the Private *hammam* in the *daulatkhana*, the *hammam* attached to the *Haramsara* ('Jodhbai Palace'), all at Fathpur Sikri, as well as at Akbar's *Khilwatgah* in Allahabad Fort, the Barber's tomb in the garden of Humayun's Tomb and the Govind Dev Temple at Vrindavan, near Mathura (1590's).

Akbar's period was also a period when a large borrowing of 'Indian' traditions in the field of art, literature, painting, music and architecture takes place. The 'Indian' features were seamlessly diffused in the newly emerging Iranian and Timurid idiomatics, axiomatics and aesthetics. As under the Tughluqs, albeit on a much grander scale, there was an attempt to mix the trabeate with the arcuate. Both the traditions were employed by the Akbari architects in the same structure. From the 'Akbari Mahal' and 'Jahangiri Mahal' at Agra Fort to almost all the structures at Fathpur Sikri to the Vrindavan temples, this blending of the two very diverse techniques is encountered. So much so that even when a building is domed or vaulted, the dome or the vault is deliberately hidden below a flat platform giving the structure a classic trabeate shape. The trabeate style is further accentuated by providing heavy brackets to the drooping eaves. It seems that the Akbari architects were trying to hide the arcuate elements of the structures.

But then, was this combination of various foreign and indigenous architectural elements, an extension of the policy of '*Sulh-i Kul*'? In other words, was this intermingling of Timurid and Central Asian with indigenous, a conscious mixing of 'Muslim' and 'Hindu' architecture? Most likely not. Unlike the modern scholarship, Akbar was most likely not aware of the 'religion' of the architectural elements used in his constructional projects. He would have been unable to comprehend that a flat roof or a 'chain and bell' motif was 'Hindu', while an arch and a dome were 'Islamic'. Most of the architectural elements which modern scholars consider as 'Hindu' and derived from temples, had already been 'Islamicised' by being incorporated into Muslim religious structures built during the pre-Mughal times.

Secondly the Akbari architect dispersed these visually hidden vaulted and domed chambers around vast open spaces which were linked to each other through elaborate post-and-beam colonnades. Some of these colonnaded structures were super-imposed to form two or more stories. Thirdly his architectural plans were marked by grand voids interspersed with vertical masses which are totally immersed within these open spaces. These are realised and created through enclosing a space with articulated walls or single-bay arcades or corridors and then placing a free-standing structure within this space. Such a scheme is typical of a mobile camp or a tented city of yore.

During the Mughal period the mosque plan also assimilated some of the symbolism as well as the idiomatic and structural features of the Hindu temples, producing mosque structures which have no parallel elsewhere in the Islamic world. One of the features which give a templar character to these Indian mosques is the triplication of the sanctuary, a feature which is so characteristic of the Late Chalukyan, Kakatiyan and the Hoysala temples. The triplication of the mosque sanctuary, the western liwan, is indicated by its being crowned with a triad of domes, which is first encountered at some Sultanate period mosques and then monumentalised at the Jami' Mosques of Sikri, Agra, Shahjahanabad and Lahore built respectively under Akbar, Shahjahan and Aurangzeb. It is essential to note here that such triple domed mosques are absent elsewhere in the Muslim world.

Secondly we find the placement of the mosque on a high plinth or platform, which again is not encountered elsewhere outside the Indian sub-continent. This process appears to have started under the Tughluqs, re-established at Fathpur and culminated at Shahjahanabad and Lahore.

Thirdly greater sacrality is given to the western liwan through a gradual hierarchy starting from the portals. The Iranian 2-*aiwan* and 4-*aiwan* mosques had a cloister of arcades in two storeys, marked by the portals at its cardinal points. The height of the arcades was the same along the four sides. From the time of Akbar, the Iranian type of mosques are tempered by the Indian sense of

the hierarchy: instead of two storied cloisters on the east, north and south of the courtyard of the mosque, one now encounters a lower single storied *riwaqs*. The gradual hierarchy is also maintained by enlarging the central dome which surmounts the nave of the main prayer chamber. The Jami' Mosque of Fathpur Sikri, Shahjahanabad and Lahore are typical examples of this templar mosque in India. This perhaps more than anything else reflects the eclectic nature of the period.

This process, however, was a two way process: if the temple architecture had its influence on the mosque construction, the Akbari temples were not left far behind in this process of shared heritage and feature exchange. The Govind Dev Temple at Vrindavan, Mathura has a typical cruciform plan covered with a well developed Timurud *chahartaq* Khurasanian vault. This temple along with Madan Mohan Temple and Jagat Kishore temple resemble the elevations and surface decorations of Akbari red sand stone structures at Fathpur Sikri and elsewhere.⁷¹

The period of Jahangir, although relegated both by traditional and modern historians as a period of 'transition', was in fact a period of 'innovation and transformation'. The use of white marble as a medium of construction and the peitra dura as a mode of surface ornamentations can be dated to this period. The Tomb of Salim Chishti at Fathpur Sikri (completed under Jahangir), the tomb of Itimadud Daulah at Agra and the tomb of Jahangir himself at Shahdara all are adorned with either or both of these two innovative introductions.

Similarly the drawing of Christian themes and idealized birds on the walls was also a Jahangiri innovation. Typical examples of such wall paintings survive at the Fort of Lahore as well as the Bagh-i Nur Afshan at Agra.⁷²

Shahjahan's period has been stressed as the 'period of zenith' of Mughal Architecture and the Persian and Central Asian influence have been greatly emphasized. To me it however appears to have been a period surcharged with indigenous influences: the multi-foliated arch, the baluster column, the floral motif on the base of the pillars and the lotus bud adorning the tip of the Shahjahani arch were all local loans, some from Jain, others from Hindu or Jain traditions.

An innovative tradition which has somehow been generally missed is the fact that it was from the period of Shahjahan that minarets became a part of the mosque structure. Though at the Qubbatul Islam, there is the Qutb Minar, but it is constructed as a separate tower independent of the building of the mosque. Throughout the Delhi Sultanate and the Mughal Empire no mosque had a *minara*. The first appearance of the minaret as part of the mosque building starts with the Mosque of Jahanara (Jami Masjid) at Agra. Here the minarets are in a stunted form. It is from the Jami' Masjid of Shahjahanabad that slender pillars start flourishing. They are retained in the Wazir Khan Mosque at Lahore and then at the Jami Masjid of Lahore built during the reign of Aurangzeb.

If Akbar had his Abul Fazl to proclaim his greatness, Shahjahan had his Taj to trumpet his prominence. Unfortunately Aurangzeb was bereft of both: and thus his reign is taken to signify the period of decline, not only in the field of politics but also of art and architecture.

It is a general belief that as he was a staunch Sunni, he is said to have only commissioned only religious buildings like mosques and is held responsible for the destruction of many of the temples. A look at modern works and explorations however reveal that Aurangzeb also commissioned structures like *sarais*, baths, gardens, tombs and fortified walls. Is this not true for other reigns as well? He is also credited to have repaired mosques built during earlier reigns and built many within captured forts.

The best known mosques of Aurangzeb's period include the Moti Masjid in the Delhi Fort, a mosque on the site of the Keshav Dev Temple at Mathura (destroyed 1669-70) and the Badshahi Mosque of Lahore.

The first and the last are very ornate structures: the Moti Masjid is a marble structure, while the Lahore mosque is a red sand stone structure with insertions of white marble. The Mathura Mosque is more austere and resembles the mosques built by royal ladies of Shahjahan's reign.

Some of the architectural features which distinguish the mosques constructed during the reign of Aurangzeb are as follows:

1. Most of these mosques stress their vertical elevation: they are all provided with minarets which provide them with the vertical perspective. This is true not only for the above mentioned mosques, but also for the Jami' Masjids at Mathura, Merta and Varanasi.
2. As pointed out by Ebba Koch, the ornamentation is richly organic, which not only reflects Aurangzeb's lack of personal interest, but also that forms once appropriate for the palace architecture, such as the ornament on Shahjahan's Delhi throne, were now utilized on palace mosques.

As far as the Tomb architecture under Aurangzeb is concerned, it is best represented by the Tomb of Rabia Daurani (who died in 1657) built in 1660-61. Although a rough copy of the Taj, it reflects a new aesthetic that developed in Aurangzeb's reign. Just as in the case of mosques, instead of perfect balance of proportions which were a hall-mark feature of Shahjahan's reign, *there is an emphasis on verticality*. Further, though generally discussed as evidence of 'decline', this tomb reveals a new spatial arrangement, as well as a *highly naturalistic fine floral ornament, much of it in stucco*, which according to Asher, renders it as quite innovative.

With this tomb also truly ends the long established imperial tradition of setting monumental mausolea within a *chaharbagh*: Now we find burials within courtyards of mosques or shrines with just a screen and a cenotaph – the grave of Jahanara, the tomb of Aurangzeb at Khuldabad. Was this just a full circle: from an open to sky tomb of Babur at Kabul to Aurangzeb's tomb at Khuldabad? Probably where the resemblance ends is that the former is located within a garden, the latter within a Chishti shrine.

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53. B.R. Mani, *Delhi Threshold of the Orient: Studies in Archaeological Investigations*, New Delhi, Aryan Books, 1997, pp. 61-5.
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66. See A.P. Singh, and Shiv Pal Singh, *Monuments of Mandu*. Delhi, 1994, pp. 8-13; G. Yazdani, *Mandu: The City of Joy*. Oxford: Oxford University Press, 1929, p. 12; ; Bianca Maria Alfieri, *Islamic Architecture of the Indian Subcontinent*, pp. 131-34.
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68. Catherine Asher, Catherine B. Asher, *Architecture of Mughal India*, op.cit., pp. 25-26; Ebba Koch, *Ebba Koch, Mughal Architecture*, op.cit., p.32.
69. For a study and survey of some Mughal gardens, see S. Ali Nadeem Rezavi, *Fathpur Sikri Revisited*, op.cit., pp. 126-33.
70. For further such examples from the reigns of Jahangir and Shahjahan one might refer to the Buland Bagh, Bagh-i Nur Afshan and Bagh-i Jahanara, all situated on the left bank of Yamuna at Agra. For the Bagh-i Jahanara (Zahra Bagh) see Ebba Koch, "The Zahara Bagh (Bagh-i Jahanara) at Agra", *Environmental Design*, op.cit., n.d., pp.30-37. (special issue on 'The City as a Garden').
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